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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,737	12/16/2003	Koji Mine	246639US0	3647

22850 7590 03/13/2006

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

SOLOLA, TAOFIQ A

ART UNIT	PAPER NUMBER
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1626

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/735,737

Applicant(s)

MINE ET AL.

Examiner

Taofiq A. Solola

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 19 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 4 and 5 is/are allowed.
- 6) ☐ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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Claims 1-7 are pending in this application.

Claims 6-7 are drawn to non-elected subject matter.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura et al, GB 2 146 995 A.

Applicant claims a process of making 2-(1-hydroxyalkyl) cycloalkanone and/or 2-(1-hydroxyaryl) cycloalkanone of formula 3, comprising aldol condensation of a cycloalkanone with an aldehyde of formula 2 in the presence of a basic catalyst and water. The molar concentration of the basic catalyst is not less than that of the carboxylic acid of formula 1 present in the reaction mixture. This implies, the molar amount of the catalyst must be greater or equal to that of the carboxylic acid, optimally the difference is 0.06 mole or less of the aldehyde. Applicant also recycle the waste in claim 3.

#### **Determination of the scope and content of the prior art (MPEP §2141.01)**

Tamura et al., teach a process of making 2-(1-hydroxyalkyl) cycloalkanone of formula 3, comprising aldol condensation of a cycloalkanone with an aldehyde of formula 2 in the presence of a basic catalyst and water.

#### **Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)**

The difference between the instant invention and that of Tamura et al., is that applicant claims molar amount of the catalyst must be greater or equal to that of the acid, optimally the

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difference is 0.06 mole or less of the aldehyde. Also, Tamura et al., do not make 2-(1-hydroxyaryl) cycloalkanone.

Finding of prima facie obviousness---rational and motivation (MPEP §2142.2413)

However, it is well known in the art that aldehyde is easily oxidized to carboxylic acid. For example, see the specification at page 1, 3<sup>rd</sup> paragraph, lines 1-2. Therefore, the reaction mixture of Tamura et al., inherently comprises carboxylic acid, and there is no evidence the molar amount of the catalyst is not greater or equal to that of the acid. Consequently, the Examiner assumes the molar amount of the catalyst is greater or equal to that of the acid in the reaction mixture of Tamura et al., absent a showing to the contrary. Even then, making the molar amount of the catalyst greater or equal to that of the acid is merely an optimization of a variable, is not patentably significant absent unexpected result which is different in kind and not merely in degree from that of the prior art. *In re Aller*, 22 F.2d 454, 105 USPQ 233 (CCPA, 1955). The process of making 2-(1-hydroxyaryl) cycloalkanone would have involved using an aryl aldehyde instead of an alkyl aldehyde as a starting reagent. The aryl aldehyde and alkyl aldehyde are deemed analogous starting material because the aldehyde functional group, not alkyl or aryl, is involved in the reaction process. However, the use of analogous starting material in a well-known process is prima facie obvious. *In re Durden*, 226 USPQ 359 (1985).

Also, recycling the waste material, without more, is an obvious modification available to the special preference of an artisan. Therefore, the instant invention is prima facie obvious from the teaching of Tamura et al. One of ordinary skill in the art would have known how to optimize a variable in the process of Tamura et al., and/or use an analogous starting material at the time this invention was made. The motivation is to optimize the yield of the product, and from knowing that analogous starting materials are interchangeable in a known process. The motivation for recycling the waste in claim 3 is to avoid the prior art.

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Applicant's arguments filed 12/19/05 have been fully considered but they are not persuasive. Applicant contends that claim 3 now has a recycling step, and therefore asked the Examiner to pass the claim "to issue." Merely recycling the waste, without more, is not supported in the specification by example, and within an obvious discretion of an artisan. The motivation for recycling the waste in claim 3 is to avoid the prior art. Applicant further argues that the prior art fails to suggest optimizing the variable (the starting reagents) and that such optimization can be performed, citing *In re Antonie*, 195 USPQ 6 (CCPA 1977) for support. This is not persuasive because the exception in *Antonie* is when the variable is not a function of the yield of the product, and therefore does not contradict the decision in *Aller*. In the instant case, the amount of starting reagents is a function of the yield of the product. Applicant contends that the passage in the specification made no admission that aldehyde is easily oxidized to carboxylic acid. This is not persuasive because it is a knowledge widely known in the art, and the specification is an evidence of such knowledge, irrespective of how easy the oxidation may or may not be.

#### ***Foreign Priority***

Applicant's arguments filed 12/19/05 have been fully considered but they are not persuasive. Applicant's contends that under MPEP 201.15, there is no basis to reject applicant's claim of foreign priority. This is not persuasive because MPEP 201.15 has nothing to do with filing a certified English translation of a priority document. The Examiner is required to certify on record that applicant's claim of foreign priority met all the conditions of 35 USC 119 (a-d). Under 35 USC 119 (b)(3), the Office may request an English translation of a foreign priority document, if it is deemed necessary. In the instant case, it is deemed necessary for the

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Office to have an English translation of the priority document. Otherwise, the Examiner is left to guess the content of the document.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

#### ***Telephone Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taofiq A. Solola, PhD, J.D. whose telephone number is (571) 272-0709.

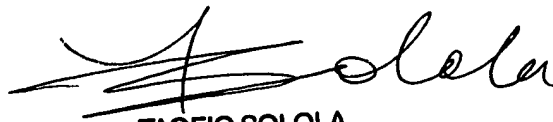
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Joseph McKane, can be reached on (571) 272-0699. The fax phone number for this Group is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1600.

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A handwritten signature in black ink, appearing to read 'Taofiq Solola', with a stylized flourish at the end.

**TAOFIQ SOLOLA**  
**PRIMARY EXAMINER**

Group 1626

March 6, 2006